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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/789,215	02/27/2004	Linlin Xing	FDN-2829	9090
7590 02/01/2010				
William J. Davis, Esq. GAF MATERIALS CORPORATION Legal Department, Building No. 10 1361 Alps Road Wayne, NJ 07470		EXAMINER COLE, ELIZABETH M		
		ART UNIT 1794		
		MAIL DATE 02/01/2010		
		DELIVERY MODE PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/789,215

**Applicant(s)**

XING ET AL.

**Examiner**

Elizabeth M. Cole

**Art Unit**

1794

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 December 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15, 21 and 23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15, 21, 23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- \_\_\_\_\_ Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)
- \_\_\_\_\_ Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/28/09 has been entered.
2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-5, 8, 11, 15, 21, 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Kielbania et al, U.S. Patent No. 5,945,473. Kielbania et al discloses a binder composition suitable for use as binder for fiberglass, (col. 8, lines 39-44), comprising a water based polyurethane which may be either aliphatic or aromatic, (col. 3, lines 20-21), and an additional polymer, such as urea formaldehyde, (col. 7, line 36), wherein the water based polyurethane is present in an amount of 5-75 weight percent and the binder is present in an amount of 0.5-60 weight percent. Kielbania teaches that the combination of the water based polyurethane and the resin binder such as urea formaldehyde improves the properties of the resulting polymeric resin blend. See col. 2, lines 47- col. 3, line 17. The polyurethane can be a carboxylated polyurethane. See col. 4, lines 1-col. 6, line 32. The binder is in the form of an aqueous emulsion and thus meets the limitation of an aqueous resinous fiber binder. See col. 1, lines 10-16. With

regard to the limitation that the aqueous solution consists essentially of water, an aqueous resinous fiber binder and a water based urethane modifier, "For the purposes of searching for and applying prior art under 35 U.S.C. 102 and 103, absent a clear indication in the specification or claims of what the basic and novel characteristics actually are, "consisting essentially of" will be construed as equivalent to "comprising." See, e.g., PPG, 156 F.3d at 1355, 48 USPQ2d at 1355 ("PPG could have defined the scope of the phrase consisting essentially of" for purposes of its patent by making clear in its specification what it regarded as constituting a material change in the basic and novel characteristics of the invention."). MPEP 2111.03 Also, If an applicant contends that additional steps or materials in the prior art are excluded by the recitation of "consisting essentially of," applicant has the burden of showing that the introduction of additional steps or components would materially change the characteristics of applicant's invention. In re De Lajarte, 337 F.2d 870, 143 USPQ 256 (CCPA 1964).

4. With regard to new claim 23, Kielbania teaches phenol formaldehyde resins which contain methylol groups, (i.e.,  $\text{CH}_2\text{OH}$  groups).

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-15, 21,23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kielbania et al, U.S. Patent No. 5,945,473 in view of Heine U.S. Patent No.

6,146,705. Kielbania et al discloses a binder composition suitable for use as binder for fiberglass, (col. 8, lines 39-44), comprising a water based polyurethane which may be either aliphatic or aromatic, (col. 3, lines 20-21), and an additional polymer, such as urea formaldehyde, (col. 7, line 36), wherein the water based polyurethane is present in an amount of 5-75 weight percent and the binder is present in an amount of 0.5-60 weight percent. Kielbania teaches that the combination of the water based polyurethane and the resin binder such as urea formaldehyde improves the properties of the resulting polymeric resin blend. See col. 2, lines 47- col. 3, line 17. The binder is in the form of an aqueous emulsion and thus meets the limitation of an aqueous resinous fiber binder. See col. 1, lines 10-16. Kielbania differs from the claimed invention because although Kielbania teaches using the resulting composition as a binder for use with glass fibers and fiberglass mats, Kielbania does not teach the particularly claimed fibers and amounts of fibers and binders, and does not specifically teach a roofing shingle material. Heine discloses a fibrous glass mat comprising fibers having a length of 1-1.5 inches and a diameter of 14-18 microns, (see col. 2, lines 35-44) which are bonded with a urea formaldehyde binder. The binder is present in an amount of 5-15% by weight. The mat can be used as a shingle and can have asphalt applied to it after formation. See col. 4, lines 1-27. It would have been obvious to one of ordinary skill in the art to have employed fibers having the size and in the amount taught by Heine in order to form a roofing material which is bonded with the binder composition of Kielbania, in order to take advantage of the improved properties which

are obtained by the mixture of the water based polyurethane and the urea formaldehyde as taught by Kielbania.

7. Applicant's arguments filed 1/28/09 have been fully considered but they are not persuasive. Applicant argues that the binder of Applicant's claimed invention is soluble in water or polyurethane modifier and water. However, paragraph 0027 does not state that the binder is soluble in water or polyurethane modifier and water, but instead teaches forming a uniform mixture. Paragraph 0022 explains that the uniform mixture is a stable emulsion. The specification does not teach that the binder is soluble in water or polyurethane modifier and water and the claims do not require that this be the case. Further, with regard to the claims as amended, as noted above, the use of the transitional phrase "consisting essentially of" places the burden on Applicant to show that the presence of additional components would materially change the characteristics of Applicant's invention and that absent such a clear indication in the specification or claims of the what the basic and novel characteristics actually are, consisting essentially of will be construed as equivalent to comprising. Applicant has not presented evidence or otherwise established that any additional components in the composition of Kielbania would materially change the characteristics of Applicant's invention and has not clearly defined what the basic and novel characteristics of the invention are. Therefore, the transitional phrase consisting essentially of has been construed as meaning comprising in the claims above. With regard to new claim 23, phenol formaldehyde resins, as taught by Kielbania, comprise methylol groups.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth M. Cole whose telephone number is (571) 272-1475. The examiner may be reached between 6:30 AM and 6:00 PM Monday through Wednesday, and 6:30 AM and 2 PM on Thursday.

The examiner's supervisor Rena Dye may be reached at (571) 272-3186.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

The fax number for all official faxes is (571) 273-8300.

/Elizabeth M. Cole/  
Primary Examiner, Art Unit 1794

e.m.c